EduSahara™ Assignment

Name : Solving Equations with Indices

Chapter : Indices

Grade : ICSE Grade IX

1. If $2^{n}=4$, find n

   (i) 1 (ii) 3 (iii) 2 (iv) 0 (v) 5

2. If $2^{m}=8$, find 7^{m}

   (i) 345 (ii) 343 (iii) 344 (iv) 340 (v) 342

3. If $3^{(16d+3)}=27^{(5d+4)}$, find d

   (i) 10 (ii) 7 (iii) 8 (iv) 12 (v) 9

4. If $625^{3d}=15625^{2d}$, find d

   (i) (-1) (ii) 1 (iii) 3 (iv) 2 (v) 5

5. If $9^{(v+14)}=81^{24}=3^{w}$, find w

   (i) 95 (ii) 96 (iii) 98 (iv) 94 (v) 97

6. If $4^{u}=64$, find $4^{(u+3)}$

   (i) 4096 (ii) 4099 (iii) 4093 (iv) 4095 (v) 4097

7. $(x)^{(f-g)}.(x)^{(g-h)}.(x)^{(h-f)}=$

   (i) 3 (ii) (-2) (iii) 0 (iv) 2 (v) 1

8. If $\left(7^{2}\right)^{540}=\left(7^{54}\right)^{c}$, find c

   (i) 21 (ii) 19 (iii) 17 (iv) 20 (v) 23

9. If $2401\times 7^{s}=7^{9}$, find s

   (i) 2 (ii) 7 (iii) 5 (iv) 4 (v) 6

10. If $8^{(2r+1)}\div 64=8^{7}$, find r

    (i) 7 (ii) 5 (iii) 1 (iv) 3 (v) 4

11. If $121550625=w^{4}\times x^{4}\times y^{4}$, find w,x,y

    (i) (3,5,7) (ii) (4,5,6) (iii) (3,6,7) (iv) (4,5,7) (v) (3,5,8)

12. If $8100=2^{m}\times 5^{n}\times 3^{o}$, find m,n,o

    (i) (2,2,6) (ii) (2,2,4) (iii) (4,2,4) (iv) (4,2,2) (v) (2,4,4)

13. If $h^x = i$, $i^y = j$ and $j^z = h$, then $xyz =$

(i) 0 (ii) -1 (iii) $(h+i+j)$ (iv) 1 (v) hij

14. If $j^t = k^u = l^v = m^w$ and $jk = lm$, then

(i) $\frac{1}{u}+\frac{1}{v}=\frac{1}{t}+\frac{1}{w}$ (ii) $ut = vw$ (iii) $uv = tw$ (iv) $\frac{1}{u}+\frac{1}{t}=\frac{1}{v}+\frac{1}{w}$ (v) $\frac{1}{u}+\frac{1}{w}=\frac{1}{v}+\frac{1}{t}$

15. If $f^{(u-1)} = gh$, $g^{(v-1)} = hf$, $h^{(w-1)} = fg$ then

a) $uv + vw + wu = 0$
b) $uv + vw + wu = 1$
c) $uvw = 1$
d) $uv + vw + wu = uvw$
e) $(u+v+w) = 1$

(i) {b,d} (ii) {a,d} (iii) {d} (iv) {c,e,d}

Assignment Key

1) (iii)	2) (ii)	3) (v)	4) (iv)	5) (ii)	6) (i)
7) (v)	8) (iv)	9) (iii)	10) (v)	11) (i)	12) (ii)
13) (iv)	14) (iv)	15) (iii)			